What is claimed is:

1. A compressed air supply system for a heavy motor vehicle, said system comprising:

a compressor for supplying compressed air;

an air dryer connected to receive compressed air from said air compressor, said air dryer comprising a desiccant bed through which the compressed air flows to provide dry compressed air, and a blow-through valve operable to connect the desiccant bed to atmosphere;

a secondary reservoir located remotely from said air dryer and connected to receive dry compressed air from said air dryer;

a primary reservoir located remotely from said air dryer and connected to receive dry compressed air from said air dryer;

control components integral with said air dryer for controlling a charging operation by controlling air flow from said air compressor through said air dryer for charging said primary reservoir and said secondary reservoir with dry compressed air; and,

said control components also controlling a purging operation by controlling air flow from said secondary reservoir through said air dryer desiccant bed and through the blow-through valve to atmosphere in order to purge said air dryer, while maintaining an initial air pressure within said primary reservoir.

2. The system of Claim 1 further comprising a one-way check valve connected between said air dryer and said primary reservoir in order to prevent a loss of pressure within said primary reservoir during the purging operation.

3. The system of Claim 2 wherein said one-way check valve is located remotely from said air dryer.

4. The system of Claim 3 wherein said one-way check valve is mounted on said primary reservoir.

5. The system of Claim 1 further comprising a pressure protection valve connected between said air dryer and said secondary reservoir in order to prevent a loss of pressure within said secondary reservoir during the charging operation, and to allow for a loss of pressure within said secondary reservoir during the purging operation.

6. The system of Claim 5 wherein said pressure protection valve is located remotely from said air dryer.

7. The system of Claim 6 wherein said pressure protection valve is mounted on said secondary reservoir.

8. The system of Claim 1 wherein said control components comprise a governor, said governor being integral with said air dryer.

9. A compressed air supply system for a heavy motor vehicle, said system comprising:

a compressor for supplying compressed air;

an air dryer connected to receive compressed air from said air compressor, said air dryer comprising a desiccant bed through which the compressed air flows to provide dry compressed air, and a blow-through valve operable to connect the desiccant bed to atmosphere;

a secondary reservoir connected to receive dry compressed air from said air dryer;

a primary reservoir connected to receive dry compressed air from said air dryer;

control components for controlling a charging operation by controlling air flow from said air compressor through said air dryer for charging said primary reservoir and said secondary reservoir with dry compressed air;

said control components also controlling a purging operation by controlling air flow from said secondary reservoir through said air dryer desiccant bed and through the blow-through valve to atmosphere in order to purge said air dryer;

a one-way check valve connected between said air dryer and said primary reservoir in order to prevent a loss of pressure within said primary reservoir during the purging operation; and

a pressure protection valve connected between said air dryer and said secondary reservoir in order to prevent a loss of pressure within said secondary

reservoir during the charging operation, and to allow for a loss of pressure within said secondary reservoir during the purging operation.

10. The system of Claim 9 wherein said primary reservoir and said secondary reservoir are located remotely from said air dryer.

11. The system of Claim 9 wherein said one-way check valve is located remotely from said air dryer.

12. The system of Claim 11 wherein said one-way check valve is mounted on said primary reservoir.

13. The system of Claim 9 wherein said pressure protection valve is located remotely from said air dryer.

14. The system of Claim 13 wherein said pressure protection valve is mounted on said secondary reservoir.

15. The system of Claim 9 wherein said control components are integral with said air dryer.

16. The system of Claim 9 wherein said control components comprise a governor, said governor being integral with said air dryer.